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James M. Iwanicki, P.E.  
Engineer-Manager

April 11, 2011

TO: Michigan Legislature

RE: Senate Bill 168 – Wetland Mitigation for Public Road Work

Dear Legislators:

The Marquette County Road Commission is responsible for over 1,272 miles of roads in the largest county in the State. Many of our 1,272 miles of road were trails built by loggers and farmers across both uplands and wetlands. The roads were built narrow many with width less than 24 feet. They were built to carry wagons and light vehicles and they were built on the path of least resistance. Currently these roads are the backbone of our roadway network. The trouble with these roads is that motorist travel considerably faster with vehicles that weigh much more.

To upgrade these narrow roads the roads must be widened to meet current safety standards and the expectations of the traveling public. To accomplish this widening it generally requires earthwork to widen the base of the road and to raise the road grade out of the swamp. Marquette County Road Commission's standard for a two-lane road is a 32-foot top width on our roads. The 32-foot width provides two 12-foot lanes and a 4-foot shoulder on each side of the road.

During my 13 years at the Marquette County Road Commission both as the Highway Engineer and now as the Manager, the Road Commission has had to compromise this 32-foot standard many times. The result of this compromise is that the traveling public has to use a substandard road or road we have chosen not to improve because of the DEQ regulation and the cost of wetland mitigation. To create a wetland the current estimated cost is \$80,000 to \$120,000 per acre of wetland. That equates to repaving a mile of road. With our 10 million dollar budget and with Marquette County Road Commission's over 100 million dollar need to repair its current transportation infrastructure we just can not justify the cost to create wetlands so we chose substandard designs or we chose not to do the project.

Below is an except of a letter I wrote to DEQ discussing flattening a slope to make the road safer in April of 2000. Although the project being discussed was on a new alignment it represents the point that wetlands come before human safety.

*Below is the additional information you have requested on the above referenced project and my response to using 2:1 slopes and guardrail instead of the proposed of 3:1 slopes in the first wetland area around station 0-600.*

*In my previous letter I addressed the three alignments examined and explained that alternate three was chosen as the most reasonable and prudent alternative. This current alignment was chosen to minimize the impact to wetland area. If the alignment were shifted to the east, it would effect a greater number of wetland acreage by disturbing the wetland and seasonal pond near station 1+100. Based on topo maps and field investigation shifting the alignment to the west would effect about the same number of wetland acreage.*

*The Road Commission feels that using 2:1 slopes and guardrail in the wetland area around station 0+600 instead of 3:1 slopes is unsafe and not prudent for the following reason. The use of 2:1 slopes is only saving 0.25 acres of an already effected wetland. It is our feeling that the safety improvements by using a 3:1 slope far out the negative impact on wetlands. Although guardrail is used as a safety measure, the best thing from a design standpoint is to design roadways so that it is not needed. It must be remembered that guardrail is a roadside hazard. The following information supports why the use of guardrail is in this area a safety hazard:*

- *A Policy on Geometric Design of Highways and Streets 1994 written by the American Association of State Highway and Transportation Officials (AASHTO) states on pages 110 – 111 the following:*

*"Accidents involving single vehicles running off the road constitute more than one-half of all fatal accidents on freeways.*

*When a vehicle leaves the roadway, the driver no longer has the ability to fully control the vehicle. Any object in or near the path of the vehicle becomes a contributing factor to the severity of the accident.*

*...AASHTO recommends the following priority for treatment of roadside obstacles on existing highways:*

- *Remove the obstacle or redesign it so it can be safely traversed.*
  - *Relocate the obstacle to a point where it is less likely to be struck.*
  - *Reduce impact severity by using an appropriate breakaway device.*
  - *Redirect a vehicle by shielding the obstacle with a longitudinal traffic barrier and/or crash cushion.*
  - *Delineate the obstacle if the above alternatives are not appropriate."*
- *Vic Childres, one of MDOT's traffic and safety experts, expressed to me that approximately 30% of all guardrail impacts result in an injury or fatality.*
  - *National statistics show list guardrail number 5 in it's top ten list of things that cause fatalities on all roadways.*

In the above case, we were forced to use a 2:1 slope thus putting motorists at risk of injury to save a wetland that was already impacted by the project.

With ever shrinking dollars for the transportation system and enormous cost of wetland mitigation and for the safety of all the users of our transportation system I urge you to support Senate Bill 168.

Sincerely,

  
James M. Iwanicki, P.E.  
Engineer Manager